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09/683,696	02/05/2002	Alexander Bernard Flavian Rebello	RD-29117	6446

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GENERAL ELECTRIC COMPANY (PCPI)
C/O FLETCHER YODER
P. O. BOX 692289
HOUSTON, TX 77269-2289

EXAMINER	
SHARON, AYAL I	

ART UNIT	PAPER NUMBER
2123	

DATE MAILED: 08/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/683,696	REBELLO ET AL.	
	Examiner	Art Unit	
	Ayal I. Sharon	2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 May 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,9-13,15-19,22-26,29-33 and 35-39* is/are rejected.

7)☒ Claim(s) *7,8,14,20,21,27,28,34 and 40-42* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 February 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Introduction

1. Claims 1-42 of U.S. Application 09/683,696 are currently pending.

Allowable Subject Matter

2. Claims 7, 8, 14, 20-21, 27-28, 34, and 40-42 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and all intervening claims.
3. The following is a statement of reasons for the indication of allowable subject matter.
4. In regards to Claim 7, Khurana teaches away from the following limitations:

> *7. The method of claim 5, wherein said generation of the editable geometry for the part comprises:*
>
> *generating a non-parametric computer aided design (CAD) model for the part from the geometric data; and*
>
> *reconstructing the non-parametric CAD model to obtain the editable geometry, said reconstruction comprising performing reverse CAD modeling.*

Khurana teaches (see col.2, lines 36-42) that "Models that do not have this [parametric CAD modeling] capability are referred to as 'dumb solids.' Most CAD/CAM systems support parametric modeling." Khurana implies that non-parametric CAD models constitute a step backwards in the art, however,

Khurana does not teach the element of "reconstructing the non-parametric CAD model to obtain the editable geometry".

5. In regards to Claim 8, neither Khurana, nor the previously applied Sebastian or Pang references, either individually or in combination, expressly teach the "segmenting the subset" limitation in Claim 8:

> *8. The method of claim 7, wherein said generation of the non-parametric CAD model for the part comprises:*
>
> *reducing the data to obtain a subset of the data,*
>
> *segmenting the subset to obtain a plurality of feature subsets of the data, each feature subset corresponding to a feature of the part,*
>
> *performing geometric feature extraction to obtain a plurality of curves and surfaces from the feature subsets, the curves and surfaces characterizing the features of the part, and*
>
> *importing the curves and surfaces into a computer aided design (CAD) geometry to obtain the non-parametric CAD model.*

6. In regards to Claim 14, neither Khurana, Sebastian, nor Pang, either individually or in combination, expressly teach the "meshing the design analysis context model" limitation in Claim 14:

> *14. The method of claim 12, further comprising preparing the design analysis context model for performance of the analysis, said preparation comprising:*
>
> *meshing the design analysis context model using the analysis code guidelines to obtain a meshed design model, and*
>
> *mapping a plurality of boundary conditions onto the meshed design model using the analysis code guidelines to obtain a design analysis model, the method further comprising:*
>
> *performing the engineering analysis on the design analysis model to obtain a plurality of engineering analysis data, said performance*

comprising executing an engineering analysis code using the design analysis model and a plurality of convergence criteria; and

evaluating the engineering analysis data and, if the engineering analysis data are unsatisfactory, said method still further comprising:

modifying the parametric master model using a plurality of redesign goals, and repeating said performance of the engineering analysis after modifying the parametric master model.

7. In regards to Claim 20, neither Khurana, Sebastian nor Pang, either individually or in combination, expressly teach the claim in its entirety, in combination with the limitations of the parent claims:

20. The method of claim 19, wherein at least two tooling context models are created, each of the tooling context models being configured for performing a different manufacturing process analysis.

8. In regards to Claim 21, neither Khurana , Sebastian, nor Pang, either individually or in combination, expressly teach the "meshing the design analysis context model" limitation in Claim 21:

21. The method of claim 19, further comprising preparing the tooling context model for performance of the manufacturing process analysis, said preparation comprising:

meshing the tooling context model using the analysis code guidelines to obtain a meshed tooling model, and

mapping a plurality of boundary conditions onto the meshed tooling model using the analysis code guidelines to obtain a tooling analysis model, said method further comprising performing the manufacturing process analysis on the tooling analysis model to obtain tooling analysis data,

said performance comprising executing a manufacturing process analysis code using the tooling analysis model, a plurality of convergence criteria, and a plurality of process parameters; and

evaluating the tooling analysis data and, if the tooling analysis data are unsatisfactory, still further comprising:

modifying the tooling master model using a plurality of manufacturing goals tooling design tradeoffs, and

repeating said performance of the manufacturing process analysis after modifying the tooling master model.

9. In regards to Claim 27, neither Khurana, Sebastian nor Pang, either individually or in combination, expressly teach the specific list of items in Claim 27:

27. The system of claim 25, wherein said part design master model module further comprises: a linked model environment configured for creating at least one design analysis context model, the context model comprising an associative copy of the parametric master model and being configured for performing an engineering analysis; and an engineering analysis code for performing the engineering analysis to generate engineering analysis data for evaluating the parametric master model.

10. In regards to Claim 28, neither Khurana, Sebastian nor Pang, either individually or in combination, expressly teach the specific list of items in Claim 28:

28. The system of claim 27, wherein said part design master model module further comprises a part data management (PDM) system configured to store operating condition data for deriving a plurality of boundary conditions, wherein said linked model environment is configured to link said PDM system to a meshed design model obtained from the design analysis context model, to map the boundary conditions onto the meshed design model.

11. In regards to Claim 34, neither Khurana, Sebastian nor Pang, either individually or in combination, expressly teach the "meshing the design analysis context model" limitation in Claim 34:

34. The system of claim 33, wherein said tooling master model module further comprises a tooling part data management (PDM) system configured to store a plurality of operating condition data for deriving a plurality of boundary conditions and a plurality of process parameters,

wherein said tooling linked model environment is configured to link said tooling PDM system:

to a meshed tooling model obtained from the tooling context model, to map the boundary conditions onto the meshed tooling model, and

to the manufacturing process analysis to supply the process parameters for performing the manufacturing process analysis.

12. In regards to Claim 40, Khurana teaches the following limitations:

40. The method of claim 39, wherein the manufacturing context model is generated for a plurality of manufacturing steps.

13. In regards to Claim 41, Khurana teaches the following limitations:

41. The method of claim 39, wherein said creation of the tooling master model comprises applying the tooling design rules to the manufacturing context model to obtain the tooling master model, wherein the tooling geometry is derived from the tooling features by said application of the design rules.

14. In regards to Claim 42, Khurana teaches the following limitations:

42. The method of claim 41, further comprising creating at least one tooling context model comprising an associative copy of the tooling master model which is configured for performing a manufacturing process analysis.

Claim Rejections - 35 USC § 102

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

16. The prior art used for these rejections is as follows:

17. Khurana et al., U.S. Patent 6,735,489. (Henceforth referred to as "**Khurana**").

18. The claim rejections are hereby summarized for Applicant's convenience. The detailed rejections follow.

19. Claims 1, 10, 24, and 36-37 are rejected under 35 U.S.C. 102(e) as being anticipated by Khurana.

20. In regards to Claim 1, Khurana teaches the following limitations:

> *1. A method of re-engineering a part comprising:*
>
> *generating a parametric master model for the part from an editable geometry for the part;*

See Khurana, especially: col.2, lines 23-42, where Khurana teaches the following:

"Model" refers to the part that is being modeled in the CAD/CAM software. The model comprises a plurality of "features".

"Parametric modeling capabilities" refers to the ability to place mathematical constraints or parameters on features of the model so that the features may be edited and changed later. Models that do not have this capability are referred to as "dumb solids." Most CAD/CAM systems support parametric modeling.

> *generating a manufacturing context model from a design master model, the design master model comprising the parametric master model and the manufacturing context model comprising a plurality of tooling features; and*

See Khurana, especially: col.7, lines 8-15, where Khurana teaches the following (emphasis added):

As seen in FIG. 5, in Unigraphics software, this linkage between the Master Process Model 20 and the process sheets 23 is preferably achieved through the use of extracted in-process models, called virtual extracts 22, that are linked to the Master Process Model. **Each virtual extract represents a step in the manufacturing process** and each is a child of the Master Process Model. Any changes to the Master Process Model are automatically reflected in all the

relevant extracts, but changes to the extracts have no effect on the Master Process Model.

> *creating a tooling master model from the manufacturing context model, the tooling master model comprising a tooling geometry for the part.*

See Khurana, especially: col.7, lines 37-47, where Khurana teaches the following (emphasis added):

Further, the principle of the process may be extended further downstream in the manufacturing process model by utilizing the electronic data for CNC programs, tooling (i.e., cutting tool selection), and fixture design by direct transmission to the machining tools without the need for process sheets and human intervention. This may be achieved in the Unigraphics environment by creating a reference set to the extract and bringing it in to a new file via virtual assembly. The extract is used to create corresponding geometry. Software must then be provided to adapt the CAD/CAM software to translate the geometry into CNC form.

21. In regards to Claim 10, Khurana teaches the following limitations:

> *10. The method of claim 1, wherein said generation of the parametric master model comprises identifying and extracting a plurality of critical parameters from the editable geometry.*

See Khurana, col.7, lines 44-47: "Software must then be provided to adapt the CAD/CAM software to translate the geometry into CNC form.

22. In regards to Claim 24, Khurana teaches the following limitations:

> *24. A system for re-engineering a part comprising:*
>
> *a part design master model module configured to generate a parametric master model for the part from an editable geometry for the part; and*

See Khurana, especially: col.2, lines 23-42, where Khurana teaches the following:

"Model" refers to the part that is being modeled in the CAD/CAM software. The model comprises a plurality of "features".

"Parametric modeling capabilities" refers to the ability to place

mathematical constraints or parameters on features of the model so that the features may be edited and changed later. Models that do not have this capability are referred to as "dumb solids." Most CAD/CAM systems support parametric modeling.

> *a tooling master model module configured to receive the parametric master model, to generate a manufacturing context model from the parametric master model, and*

See Khurana, especially: col.7, lines 8-15, where Khurana teaches the following (emphasis added):

As seen in FIG. 5, in Unigraphics software, this linkage between the Master Process Model 20 and the process sheets 23 is preferably achieved through the use of extracted in-process models, called virtual extracts 22, that are linked to the Master Process Model. **Each virtual extract represents a step in the manufacturing process** and each is a child of the Master Process Model. Any changes to the Master Process Model are automatically reflected in all the relevant extracts, but changes to the extracts have no effect on the Master Process Model.

> *to create a tooling master model from the manufacturing context model, wherein the manufacturing context model comprises a plurality of tooling features and the tooling master model comprises a tooling geometry.*

See Khurana, especially: col.7, lines 37-47, where Khurana teaches the following (emphasis added):

Further, the principle of the process may be extended further downstream in the manufacturing process model by utilizing the electronic data for CNC programs, tooling (i.e., cutting tool selection), and fixture design by direct transmission to the machining tools without the need for process sheets and human intervention. This may be achieved in the Unigraphics environment by creating a reference set to the extract and bringing it in to a new file via virtual assembly. The extract is used to create corresponding geometry. Software must then be provided to adapt the CAD/CAM software to translate the geometry into CNC form.

23. In regards to Claim 36, Khurana teaches the following limitations:

> *36. A method of manufacturing comprising:*

generating a parametric master model for a part from an editable geometry for the part;

See Khurana, especially: col.2, lines 23-42, where Khurana teaches the following:

"Model" refers to the part that is being modeled in the CAD/CAM software. The model comprises a plurality of "features".

"Parametric modeling capabilities" refers to the ability to place mathematical constraints or parameters on features of the model so that the features may be edited and changed later. Models that do not have this capability are referred to as "dumb solids." Most CAD/CAM systems support parametric modeling.

generating a manufacturing context model from the parametric master model, the manufacturing context model comprising a plurality of tooling features;

See Khurana, especially: col.7, lines 8-15, where Khurana teaches the following (emphasis added):

As seen in FIG. 5, in Unigraphics software, this linkage between the Master Process Model 20 and the process sheets 23 is preferably achieved through the use of extracted in-process models, called virtual extracts 22, that are linked to the Master Process Model. **Each virtual extract represents a step in the manufacturing process** and each is a child of the Master Process Model. Any changes to the Master Process Model are automatically reflected in all the relevant extracts, but changes to the extracts have no effect on the Master Process Model.

creating a tooling master model from the manufacturing context model, the tooling master model comprising a tooling geometry for the part;

See Khurana, especially: col.7, lines 37-47, where Khurana teaches the following (emphasis added):

Further, the principle of the process may be extended further downstream in the manufacturing process model by utilizing the electronic data for CNC programs, tooling (i.e., cutting tool selection), and fixture design by direct transmission to the machining tools without the need for process sheets and human intervention. This may be achieved in the Unigraphics environment by creating a reference set to the extract and bringing it in to a new file via

virtual assembly. The extract is used to create corresponding geometry. Software must then be provided to adapt the CAD/CAM software to translate the geometry into CNC form.

generating a hard tooling using the tooling master model; and

See Khurana, especially: col.7, lines 37-47, where Khurana teaches the following:

Further, the principle of the process may be extended further downstream in the manufacturing process model by utilizing the electronic data for CNC programs, tooling (i.e., cutting tool selection)...

manufacturing at least one part using the hard tooling and a plurality of process parameters.

See Khurana, especially: col.8, lines 61-64 where Khurana teaches the following:

... and generating machining instructions to create a real-world object by manufacturing said form features onto said blank.

24. In regards to Claim 37, Khurana teaches the following limitations:

37. The method of claim 36, further comprising generating the editable geometry from data characterizing the part.

See Khurana, especially: col.2, lines 23-42, where Khurana teaches the following:

"Model" refers to the part that is being modeled in the CAD/CAM software. The model comprises a plurality of "features".

"Parametric modeling capabilities" refers to the ability to place mathematical constraints or parameters on features of the model so that the features may be edited and changed later. Models that do not have this capability are referred to as "dumb solids." Most CAD/CAM systems support parametric modeling.

Claim Rejections - 35 USC § 103

25. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

26. The prior art used for these rejections is as follows:

    a. Khurana et al., U.S. Patent 6,735,489. ("**Khurana**").

    b. Liasi et al., U.S. Patent PG-PUB 2002/0090130 ("**Liasi**").

    c. Sebastian, U.S. Patent 5,822,206. ("**Sebastian**").

27. The claim rejections are hereby summarized for Applicant's convenience. The detailed rejections follow.

28. Claims 2-6, 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Khurana in view of Liasi et al.

29. In regards to Claim 2, Khurana does not expressly teach the following limitations:

> *2. The method of claim 1 further comprising: obtaining data characterizing the part; and generating the editable geometry for the part from the data.*

Liasi, on the other hand, expressly teaches (see paragraph [0017]. Emphasis added):

> The shape of the tool may also be compared to the master design for the part and shape of successive re-works of the tool may be compared with each other to establish relationships of how the part shape changes in consequence of changes in the geometry of the tool. This can provide data useful in any further re-work of the tool and a history that can be used in the design of other tools.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Khurana's teachings with those of Liasi, because

doing so would help in "useful in any further re-work of the tool and a history that can be used in the design of other tools,." (see Liasi, para. [0017]).

30. Claim 3 is rejected on the same grounds as claim 2.

> *3. The method of claim 2, wherein said obtaining comprises measuring the part to obtain the data.*

31. In regards to Claim 4, Khurana does not expressly teach the following limitations:

> *4. The method of claim 3, wherein said measurement comprises performing at least one of digital radiography and optical scanning.*

Liasi, on the other hand, expressly teaches (see paragraph [0018]. Emphasis added):

> The apparatus and method for improving efficiency of tool making processes and tool maintenance processes according to the present invention arise, at least in part, through the appreciation that **optical scanning** can be used as a practical technique for measuring both a tool and a formed part and of the availability of computer data processing equipment that can rapidly process large amounts of data, such as that generated in implementing an optical scanning process as a step in a method for ascertaining differences between the geometry of a forming tool and a part formed by the tool.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Khurana's teachings with those of Liasi, because doing so would help in "ascertaining differences between the geometry of a forming tool and a part formed by the tool." (see Liasi, para. [0018]).

32. Claim 5 is rejected on the same grounds as claim 2.

> *5. The method of claim 2, wherein the data comprise geometric data for the part.*

33. Claim 6 is rejected on the same grounds as claim 2.

6. The method of claim 5, wherein the data further comprise attribute data for the part.

Examiner interprets that Liasi's geometric data constitutes "attribute data".

34. Claim 9 is rejected on the same grounds as claim 2

9. The method of claim 1, further comprising obtaining the editable geometry from legacy design information.

35. Claims 11-13, 15-19, 22-23, 25-26, 29-33, 35, and 38-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Khurana in view of Sebastian et al.

36. In regards to Claim 11, Khurana does not expressly teach the following limitations:

11. The method of claim 10, wherein said extraction of the critical parameters comprises: applying a plurality of knowledge based engineering (KBE) part design generative rules to the editable geometry to obtain the parametric master model, and applying a plurality of KBE part design checking rules to the parametric master model to ensure that the parametric master model satisfies a plurality of functional and manufacturability requirements.

Sebastian, on the other, hand, does expressly teach the use of knowledge based engineering. (See Sebastian, especially: col.3, line 65 to col.4, line 9 and col.5, lines 59-65).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Khurana's teachings with those of Sebastian, because doing so was "a known approach" at the time (see Sebastian, col.3, line 65 – col.4, line 2.).

37. Claims 12-13, 15-19, 22-23, 25-26, 29-33, 35, and 38-39 are rejected on the same grounds as Claim 11.

Response to Arguments

Re: Claim Rejections - 35 USC § 112

38. Examiner finds applicants' argument regarding the 35 USC § 112 rejection of claim 2 to be persuasive (see p.13 of the amendment filed 5/11/2006). The rejection has been withdrawn.

Re: Claim Rejections - 35 USC § 102

39. Examiner finds applicants' arguments regarding the 35 USC § 102 rejections of claims 1,10, 24, and 36-37 to be unpersuasive (see pp.13-14 of the amendment filed 5/11/2006).

40. More specifically, the applicants unpersuasively argue that Khurana does not teach "an editable geometry". Examiner respectfully disagrees. First, col.2, lines 8-11 of Khurana expressly teach the following:

> The method of computer aided design and computer aided manufacture (CAD/CAM) disclosed herein may be implemented on any CAD/CAM software that supports (a) datum planes, (b) parametric modeling capabilities, and (c) feature modeling, or their functional equivalents.

Moreover, col.2, lines 23-42 of Khurana expressly teaches the following:

> "Model" refers to the part that is being modeled in the CAD/CAM software. The model comprises a plurality of "features".

> "Parametric modeling capabilities" refers to the ability to place mathematical constraints or parameters on features of the model so that the features may be edited and changed later.
>
> "Feature modeling" is the ability to build up a model by adding and connecting a plurality of editable features. Not all CAD/CAM software supports this capability. AutoCAD, for example, uses a wire-frame-and-surface methodology to build models rather than feature modeling. A critical aspect of feature modeling is the creation of associative relationships between features, meaning the features are linked such that changes to one feature may alter the others with which it is associated. A preferred associative relationship is a "parent/child relationship".

Examiner finds that "mathematical constraints or parameters on features [that] may be edited and changed later" corresponds to "editable geometry". Examiner also finds that Khurana's definition of "feature modeling" also corresponds to generating "an editable geometry".

41. The rejections have therefore been maintained.

Re: Claim Rejections - 35 USC § 103

42. The rejections under 35 USC § 103 are maintained for the same reason that the rejections under 35 USC § 102, addressed above, are being maintained.

Conclusion

43. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory

action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ayal I. Sharon whose telephone number is (571) 272-3714. The examiner can normally be reached on Monday through Thursday, and the first Friday of a biweek, 8:30 am – 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached at (571) 272-3749.

Any response to this office action should be faxed to (571) 273- 8300, or mailed to:

USPTO
P.O. Box 1450
Alexandria, VA 22313-1450

or hand carried to:

USPTO
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Tech Center 2100 Receptionist, whose telephone number is (571) 272-2100.

Ayal I. Sharon
Art Unit 2123
August 1, 2006

PAUL RODRIGUEZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

8/3/06